# Models to Enable High Level Hardware Portability

Development Environment Working Group

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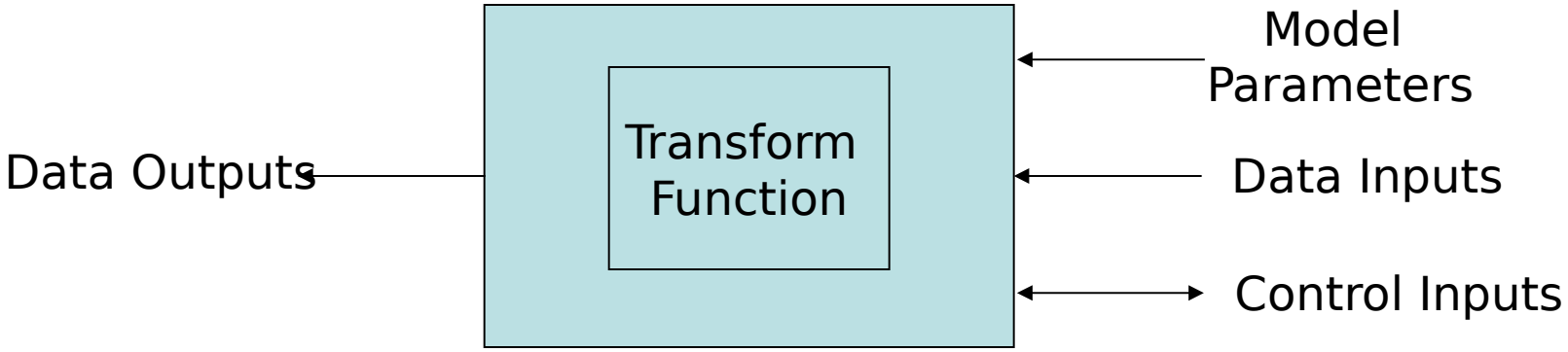
# Stated Objective

- Define:
- What elements of model are needed by the library to provide portability across all types of hardware?
- What is the model that should be used?
- How should this model be documented?
- Make sure that the model provides for describing sufficient information about the waveform to allow vendors to port from any of the following hardware elements to any other hardware element (hardware elements include FPGA, ASIC, DSP, GPP)

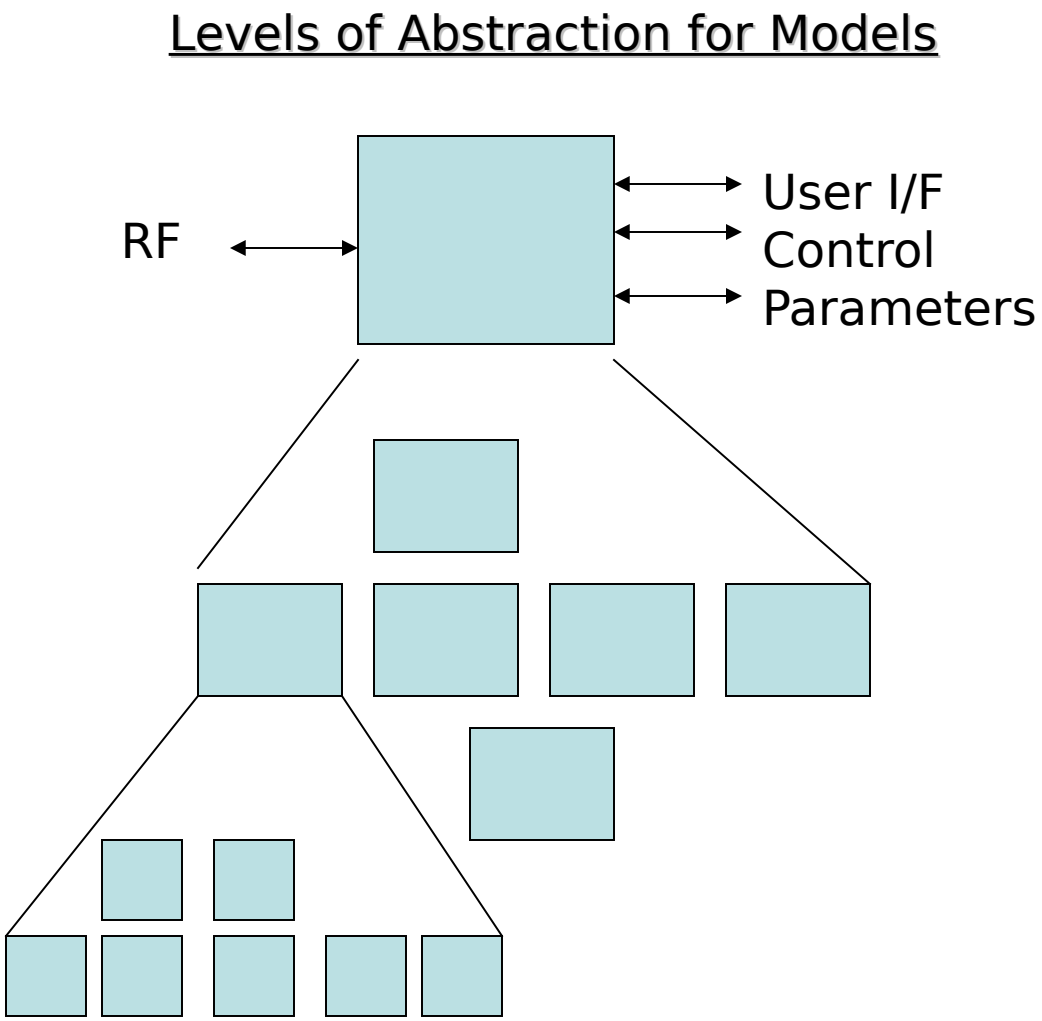
# What should a model include

- I/O definitions
  - Data
    - What types of I/0
    - Timing requirements
    - Format, (Bit order, word list, data type etc)
  - Control
  - Parameters
- Black box performance/functional/behavioral description – Transformation Function
  - Timing
  - Latency - Update rate how fast does the transformation occur
  - Initiation rate
  - Queuing requirements
- Waveform component structure
  - Inter-relationship of components
  - Specific required ordering of components
  - Serial/ Parallelism of the components

# Example Model Abstraction



# Example Model Abstraction



# What tools or languages can provide this generic description

- C or C++?
- UML?
- XML?
- Matlab?
- SPW?
- Spread sheets?
- Simulink?
- Documents?
- Others?

# Agenda

- Meeting May 26th in DC
  - One day meeting